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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/411,212	10/04/1999	DENNIS L. VENABLE	D/99423Q	8000

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EXAMINER	
DASTOURI, MEHRDAD	
ART UNIT	PAPER NUMBER
2623	

DATE MAILED: 07/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/411,212	Applicant(s) VENABLE, DENNIS L.	
	Examiner Mehrdad Dastouri	Art Unit 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 October 1999* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

1. The drawings are objected to because of the following informalities.

In Figure 8, "y = mx + b" should be corrected to "y = mx + k".

In Figure 9, "BC" should be corrected to "B6".

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:

On Page 6, Line 29, "2N" should be corrected to "2^N "; on Page 11, Line 27, US Patent No. "5,282,091" should be corrected to "5,282,061"; on Page 15, Line 18, "x=1/ny-k/m" should be corrected to "x=1/my-k/m"; on Page 15, Line 27, "figure 6" should be corrected to "figure 7"; on Page 21, Line 14, "Overlap + = Maximum $P1_{xmin}$, $P2_{xmin}$)" should be corrected to "Overlap = Maximum ($P1_{xmin}$, $P2_{xmin}$)".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 7 and 15 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable

one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 7 limitation concerning "summing threshold values in the X-axial direction of the first and second images when an overlap between the first and second images is ascertained" is not disclosed in the specification.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-8 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is vague and indefinite because the limitation recited in the last line of Claim 1 is not terminated by a period (or any punctuation mark). This has been resulted in an unclear claim scope. Claims 2-8 depend on Claim 1.

Claim Objections

7. Claim 3 is objected to because of the following informalities:

In Line 3 of Claim 3, "in a at least" should be corrected to "in at least".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over combined teachings of Dermer et al (U.S. 5,313,570) and Fukuda et al (U.S. 5,867,593).

Regarding Claim 1, Dermer et al disclose a method of processing multiple digital images using an imaging input device so as to reduce bleeding of edges of multiple digital images by determining the boundaries of each of the multiple digital images, comprising:

detecting a boundary of a first image (Figure 6; Column 10, Lines 58-68, Column 11, Lines 1-32. Table 1 depicts the boundary of Object 1 (Blue fill).);

detecting a boundary of a first image (Figure 6; Column 10, Lines 58-68, Column 11, Lines 1-32. Table 1 depicts the boundary of Object 2 (Red fill).);

determining an overlap between the detected boundaries of the first and second images (Column 5, Lines 30-39; Column 11, Lines 33-49);

and modeling a third image from the calculated overlap of the first and second images (Figures 14-16);

calculating the overlap between the first and second images (Figure 6; Column 10, Lines 58-68, Column 11, Lines 1-32. Table 1 depicts the boundary of Object 2 (Red fill).).

Dermer et al do not specifically disclose modeling third image wherein the third image contains at least said first and second images and represents a depiction of said first and second images without an overlap between said first and second images.

Fukuda et al disclose an image region dividing apparatus for discriminating image regions comprising generation of a third image containing at least a first and second images (Images A' and B') and representing a depiction of a first and a second without an overlap between the first and second images (Figures 22-24; Column 21, Lines 37-48; Column 22, Lines 41-54).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Dermer et al et al invention according to the teachings of Fukuda et al to represent a depiction of the first and second overlapped images without an overlap between the images because it will eliminate redundant information in the first and second images and reduce image processing time and storage requirements.

Regarding Claim 2, Fukuda et al further disclose the method according to Claim 1, comprising:

wherein the step of determining an overlap of the first and second images uses a maximum threshold value in at least an X-axial direction for the first and second images (Figures 20B and 20H, Condition (a). The maximum threshold is X_{ei} , X_{sj} should be smaller than the maximum threshold.).

Regarding Claim 3, Fukuda et al further disclose the method according to Claim 1, comprising:

wherein the step of determining an overlap of the first and second images uses a minimum threshold value in at least an X-axial direction for the first and second images (Figures 20B and 20H, Condition (a). The minimum threshold is X_{si} , X_{sj} should be greater than the minimum threshold.).

Regarding Claim 4, disclose the method according to Claim 1, comprising:

wherein the step of determining an overlap of the first and second images further comprises:

determining a maximum threshold value in at least an X-axial direction for the first and second images (Figures 20B and 20H, Condition (a). The maximum threshold is X_{ei} , X_{sj} should be smaller than the maximum threshold.),

determining a minimum threshold value in at least an X-axial direction for the first and second images (Figures 20B and 20H, Condition (a). The minimum threshold is X_{si} , X_{sj} should be greater than the minimum threshold.),

comparing the maximum and minimum values of the first and second images in a manner so as to ascertain an overlap between the first and second images (Figure 20H, Condition (a)).

Regarding Claim 5, Fukuda et al further disclose the method according to Claim 4, comprising:

wherein the step of comparing includes further at least determining if a minimum threshold value in the X-axial direction of the first image (X_{sj}. Image j is considered the first image.) is greater than a maximum threshold value in the X-axial direction of the second image (X_{ei}. Image i is considered the second image.) (Figure 20H. X_{sj} is greater than X_{ei}.).

Regarding Claim 6, Fukuda et al further disclose the method according to Claim 4, comprising:

wherein the step of comparing includes further at least determining if a maximum threshold value in the X-axial direction of the first image is greater than a minimum threshold value in the X-axial direction of the second image (Figure 20H, Condition (a). The maximum threshold X_{ei} is greater than the minimum threshold X_{si}.).

Regarding Claim 7, as best understood by the Examiner, Fukuda et al further disclose the method according to Claim 4, comprising:

estimating the overlap of the first and second images in the X-axial direction based on the threshold values in the X-axial direction of the first and second images when an overlap between the first and second images is ascertained (Figure 21B).

Regarding Claim 8, Fukuda et al further disclose the method according to Claim 1, comprising:

wherein the step of determining an overlap of the first and second images further comprises:

determining a maximum threshold value in at least the Y-axial direction for the first and second images (Figures 20E and 20H, Condition (c). The maximum threshold is Y_{ei} , Y_{sj} should be smaller than the maximum threshold.),

determining a minimum threshold value in at least the Y-axial direction for the first and second images (Figures 20E and 20H, Condition (a). The minimum threshold is Y_{si} , Y_{sj} should be greater than the minimum threshold.).

With regards to Claim 9, arguments analogous to those presented for Claim 1 are applicable to Claim 9.

With regards to Claim 10, arguments analogous to those presented for Claim 2 are applicable to Claim 10.

With regards to Claim 11, arguments analogous to those presented for Claim 3 are applicable to Claim 11.

With regards to Claim 12, arguments analogous to those presented for Claim 4 are applicable to Claim 12.

With regards to Claim 13, arguments analogous to those presented for Claim 5 are applicable to Claim 13.

With regards to Claim 14, arguments analogous to those presented for Claim 6 are applicable to Claim 14.

With regards to Claim 15, arguments analogous to those presented for Claim 7 are applicable to Claim 15.

With regards to Claim 16, arguments analogous to those presented for Claim 8 are applicable to Claim 16.

Other prior art cited

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 5,854,853 to Wang is cited for a method and apparatus for selecting blocks of image data from image data having both horizontally- and vertically-oriented blocks.

U.S. Patent 5,892,854 to de Queiroz et al is cited for an automatic image registration using binary moments.

U.S. Patent 6,243,103 to Takiguchi et al is cited for panoramic image generation in digital photography.

European Patent Application EP 0 883 287 A1to Wieringa is cited for an image processing system with automatic image separation and alignment functions.

Contact Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mehrdad Dastouri whose telephone number is (703) 305-2438.

1. The examiner can normally be reached on Monday to Friday from 8:00 a.m. to 4:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center Customer Service whose telephone number is (703) 306-0377.

Mehrdad Dastouri
Patent Examiner
Group Art Unit 2623
June 30, 2002